

What is claimed is:

1. A balloon dilation catheter comprising:
  - a tubular member having a proximal end and a distal end;
  - an inflatable balloon disposed at the distal end of the tubular member;
  - a first lumen disposed in the tubular member and in communication with an interior of the inflatable balloon;
  - a second lumen disposed in the tubular member for receiving a guidewire along at least a portion of its length, the second lumen having a first opening in the proximal region of the tubular member and a second opening at the distal region of the tubular member; and
  - a first slit disposed longitudinally in the tubular member and extending along at least a portion of the tubular member, the first slit comprising a first pair of longitudinal edges in a side by side relationship, the tubular member being constructed of a resilient material such that, as the guidewire is separated from the second lumen, the longitudinal edges are biased open from a first position to a second position having a gap greater than or equal a diameter of the guidewire.
2. The balloon dilation catheter defined in claim 1, wherein, in the first position, the first pair of longitudinal edges are in an abutting relationship.
3. The balloon dilation catheter defined in claim 1, wherein, in the first position, the second pair of longitudinal edges are in spaced relationship, a space between the longitudinal edges being less than the diameter of the guidewire.
4. The balloon dilation catheter defined in claim 1, wherein the first slit extends from the first opening to the second opening.
5. The balloon dilation catheter defined in claim 1, further comprising an adapter attached to the proximal region of the tubular member.

6. The balloon dilation catheter defined in claim 5, wherein the adaptor comprises a valve comprising a second slit and third lumen for receiving the guidewire, the second lumen and the third lumen in communication with one another.

7. The balloon dilation catheter defined in claim 6, wherein the second slit comprises a second pair of longitudinal edges in a side by side relationship, the valve being constructed of a resilient material such that, as the guidewire is separated from the third lumen, the longitudinal edges are biased open from a first position to a second position having a gap greater than or equal a diameter of the guidewire.

8. The balloon dilation catheter defined in claim 7, wherein, in the first position, the second pair longitudinal edges are in an abutting relationship.

9. The balloon dilation catheter defined in claim 7, wherein, in the first position, the second pair of longitudinal edges are in spaced relationship, a space between the longitudinal edges being less than the diameter of the guidewire.

10. The balloon dilation catheter defined in claim 6, the first slit and the second slit are in substantial longitudinal alignment.

11. The balloon dilation catheter defined in claim 1, wherein the inflatable balloon comprises a third slit in substantial alignment with the first slit.

12. The balloon dilation catheter defined in claim 1, the tubular member comprises a fourth lumen for receiving a stiffening member.

13. The balloon dilation catheter defined in claim 12, further comprising the stiffening member disposed in the third lumen.

14. The balloon dilation catheter defined in claim 1, wherein the first lumen and the second lumen each comprise a passageway having a substantially circular cross-section disposed in a substantially solid tubular member.

15. The balloon dilation catheter defined in claim 1, wherein one of the first lumen and the second lumen comprises a passageway having a substantially circular shaped cross-section disposed in a substantially solid tubular member, and the other comprises a passageway having a substantially semi-circular shaped cross-section disposed in a substantially solid tubular member.

16. The balloon dilation catheter defined in claim 1, wherein the first slit extends along substantially the entire length of the tubular member.

17. The balloon dilation catheter defined in claim 1, wherein the first slit extends along a portion of the length of the tubular member.

18. The balloon dilation catheter defined in claim 17, wherein the tubular member comprises a guidewire port disposed distally of the first slit and in communication with the second lumen.

19. The balloon dilation catheter defined in claim 18, wherein the guidewire port comprises a ramp to direct a proximal end of the guidewire through the guidewire port as the guidewire is moved proximally in the second lumen.

20. A catheterization kit comprising:  
a guide catheter;  
a guide wire; and  
the balloon dilation catheter defined in claim 1.

21. A stent-mounted balloon catheter comprising:  
the balloon dilation catheter defined in claim 1 and a stent mounted on the inflatable balloon of the catheter.

22. A balloon dilation catheter comprising:  
a tubular member having a proximal end and a distal end;  
an inflatable balloon disposed at the distal end of the tubular member;  
a first lumen disposed in the tubular member and in communication with an interior of the inflatable balloon;

a second lumen disposed in the tubular member for receiving a guidewire along at least a portion of its length, the second lumen having a first opening in the proximal region of the tubular member and a second opening at the distal region of the tubular member;

a first slit disposed longitudinally in the tubular member and extending along at least a portion of the tubular member, the slit permitting withdrawal of the guidewire from the second lumen; and

an adapter attached to the proximal region of the tubular member, the adaptor comprising a valve comprising a second slit and third lumen for receiving the guidewire, the second lumen and the third lumen in communication with one another, the second slit comprising a pair of longitudinal edges in a side by side relationship, the valve being constructed of a resilient material such that, as the guidewire is separated from the third lumen, the longitudinal edges are biased open from a first position to a second position having a gap greater than or equal a diameter of the guidewire.